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EXTENSIBLE PAINT ROLLER

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This invention relates to a paint roller which receives and supports a conventional sleeve or cylinder having nap on its exterior surface for application of paint and the like onto a surface. More particularly, it relates to a paint roller which extensible from a first length, such as 7" to a second length, for example 9", and then, of course, is convertible back to the 7" length. Accordingly, the roller of this invention has versatility, i.e., two rollers in one for painting wide and narrow surface areas, and thereby can replace one roller.

Heretofore, some users of paint rollers purchased two separate rollers, one for painting surface areas relatively narrow in width, and a second roller for covering wider surface areas. Now, however, my invention makes it possible to convert a single roller from a short length length to a long length, or from a long length to a short one. Specifically, my roller receives and rotatably supports a conventional nap-covered sleeve which applies paint onto a surface, and comprises a rod adapted for mounting upon an axle and for rotation about its longitudinal axis on this axle. The rod carries an outer substantially tubular shell member having a portion which extends longitudinally over a portion of the rod. This outer shell member extends in substantially the same direction as the rod and includes at least two spaced apart fingers whose outer ends are free and form an open end of the shell member. The fingers extend inwardly from their outer ends to form two slots therebetween and to connection with that portion of the outer shell member which includes the other end thereof. A first stop member is positioned inwardly from the outer ends of the fingers and extends between the rod and an inner wall of the outer shell member. An inner tubular member with a portion telescoped inside a part of the outer tubular member and circumferentially around the rod extends substantially longitudinally of this rod and in engagement with a part thereof. This inner tubular member is rotatable with the rod and has a slot which is open at one end of the inner tubular member and which runs inwardly from the one end to a slot terminus. The portion of the inner tubular member which includes the slot extends into the open end of the outer tubular member and is slidably disposed upon the rod from a first position whereat the first stop member engages the slot terminus to form a roller of a first length, to a second position whereat a portion of the inner tubular member has been moved longitudinally out through the open end of the outer tubular member to bring a part of the inner member into engagement with a second stop member carried by either the axle or the rod, and whereat this inner member has been turned about its longitudinal axis an amount to move the inner member slot out of alignment with the first stop member to form a roller of a second length greater than the first length.

This roller has a means such as a ring slidably disposed upon the inner member along that portion which extends into the open end of the outer member. This ring extends substantially radially from the inner member into engagement with the interior surface of the outer member fingers for urging them radially apart. The inner tubular member also has means such as longitudinally extending ribs which project radially inwardly along a part of the inside surface thereof to provide a friction engagement with the inner tubular member and the rod

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to resist movement of the inner tubular member upon the rod.

At one end of the rod or axle is a spring which is disposed to operatively exert a force upon an end of the inner member to resist rotation thereof about the rod when it is in the second position. The inner tubular member has on that end at which its slot is open, at least two spaced apart lips which form a notch for receiving the first stop member when the inner tubular member is in the second position.

In addition to the slot, the inner member may have a means such as a shoulder, rib, lug, projection, etc., thereon for engagement with a first stop member to form the first length of the roller and thereby eliminate the slot of the inner member.

A further embodiment of my roller has the first length formed by engagement of the one end of the inner member with the first stop member which can be an end wall of the outer shell.

In the accompanying drawings, I have shown a preferred embodiment of my invention, in which:

FIGURE 1 is a plan view, partially in section, of my roller arranged for a short length;

FIGURE 2 is a section view along the line II—II of FIGURE 1;

FIGURE 3 is a section view along the line III—III of FIGURE 1;

FIGURE 4 is a section view along the line IV—IV of FIGURE 1;

FIGURE 5 is a section view along the line V—V of FIGURE 1;

FIGURE 6 is a view similar to FIGURE 1, but showing the roller extended from the short length of FIGURE 1 to a long length;

FIGURE 7 is a section view along with the line VII—VII of FIGURE 6;

FIGURE 8 is a section view along the line VIII—VIII of FIGURE 6; and

FIGURE 9 is a section view along the line IX—IX of FIGURE 6.

Referring to the drawings, my roller 1 is rotatably mounted upon a conventional axle 2 which is joined to a conventional handle 3. This roller comprises a rod 4 through which the axle 2 extends and which is rotatably disposed thereupon. The axle has lugs 5 and a washer 6 located adjacent a right-angle bend in the handle 3 to engage one end of the rod, and a threaded nut 7 at the free end 8 of the axle 2 to engage the other end of the rod 4. A combination of the lugs and washer and of the nut position and confine the rod 4 upon the axle 2.

The rod 4 carries an outer tubular shell 9 which is coaxial and rotatable therewith and which extends longitudinally over a part of the length of the rod. This outer shell is joined to the rod by an end wall 10 located at that end of the rod which engages the washer 6 and by a web-like stop 11 which extends on diametrically opposite sides of the rod into engagement with the interior of the shell 9. This web stop 11 runs longitudinally from the rear wall 10 towards the other end of the rod and thereby not only functions as a stop, but also supports the outer shell 9 along a part of its length.

The outer shell 9 has two spaced apart fingers 12 and 13 whose outer ends are free and thereby form an open end 14 of the outer shell. These fingers extend longitudinally of the rod and incline radially outwardly a small amount as shown in FIGURE 6 to assist retention of a conventional nap-covered sleeve or cylinder on the roller. The two fingers extend inwardly from their outer ends to connection with that portion 15 of the outer shell which includes the end wall 10 and form two slots 16 and 17 therebetween. The two slots are in alignment with one another and disposed substantially at right angles to the